U.S. Fish & Wildlife Service
Bay Delta Fish & Wildlife Office
Species Account
LONGFIN SMELT
Hypomesus transpacificus

Delta smelt
National Oceanic & Atmospheric Administration Fisheries Service

CLASSIFICATION: Candidate
Federal Register 77:19756; April 2, 2012
12-Month Finding on a Petition to List the San Francisco Bay-Delta Population of the Longfin Smelt as Endangered or Threatened (PDF 889 KB)
The Service found that listing the longfin smelt is warranted only for the Bay-Delta, not range-wide.

CRITICAL HABITAT: NOT DESIGNATED

RECOVERY PLAN: FINAL
Recovery Plan for the Sacramento-San Joaquin Delta Native Fishes, November 26, 1996
http://ecos.fws.gov/docs/recovery_plan/961126.pdf.
Note: Some information is out of date.

5-YEAR STATUS REVIEW: NONE

DESCRIPTION
The longfin smelt is a pelagic (lives in open water) estuarine fish that typically measures 3.5 to 4.3 inches standard length, although third-year females may grow to almost 6 inches. Longfin smelt can be distinguished from other smelts mainly by their long pectoral fins. The sides and lining of the gut cavity appear translucent silver, the back has an olive to iridescent pinkish hue, and mature males are usually darker in color than females. Longfin smelt can be distinguished from other smelts by their long pectoral fins.

The longfin smelt belongs to the true smelt family Osmeridae and is one of three species in the Spirinchus genus; the night smelt (Spirinchus starksi) also occurs in California, and the hishamo (Spirinchus lanceolatus) occurs in northern Japan.

Longfin smelt generally spawn in freshwater and then move downstream to brackish water to rear. The life cycle of most longfin smelt generally requires estuarine conditions. They usually live for 2 years, spawn, and then die, although some individuals may spawn as 1- or 3-year-old fish before dying. Longfin smelt in the Bay-Delta may spawn as early as November and as late as June, although spawning typically occurs from January to April. Longfin smelt have been observed in their winter and spring spawning period as far upstream as Isleton in the Sacramento River, Santa Clara shoal in the San Joaquin system, Hog Slough off the South-Fork Mokelumne River, and in Old River south of Indian Slough.

DISTRIBUTION
The known range of the longfin smelt extends from the San Francisco Bay-Delta in California northward to the Cook Inlet in Alaska. Only the Bay-Delta population was advanced to candidate status.

The southernmost known population of longfin smelt is the Bay-Delta estuary, and longfin smelt occupy different habitats of the estuary at various stages in their life cycle.

In the Bay-Delta, most longfin smelt spend their first year in Suisun Bay and Marsh, although surveys conducted by the City of San Francisco collected some first-year longfin in coastal waters. The remainder of their life is spent in the San Francisco Bay or the Gulf of Farallones.

THREATS

Potential threats to longfin smelt habitat include the effects of reduced freshwater flow, climate change, and channel disturbance. As California's population has grown, demands for reliable water supplies and flood protection have grown. In response, State and Federal agencies built dams and canals, and captured water in reservoirs, to increase capacity for water storage and conveyance resulting in one of the largest manmade water systems in the world.

Climate change will likely affect longfin smelt in multiple ways, but longfin smelt are able to move between a wide range of aquatic environments that vary greatly in water temperature and salinity. These behavioral and physiological characteristics of the species may help it adapt to effects of climate change. We conclude at this time that the best available information does not indicate that climate change threatens the continued existence of longfin smelt across its range.

Based on the best available scientific information, we conclude that reduced freshwater flows, climate change, and channel disturbances are not significant current or future threats to longfin smelt across its range except in the Bay-Delta, where reduced freshwater flow is a threat.

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